
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 418-8348
SRP Section: SRP 19
Application Section: 19.1
Date of RAI Issue: 02/23/2016

Question No. 19-43

10 CFR 52.47(a)(27) requires that a standard design certification applicant provide a description of the design specific PRA.

SRP Chapter 19.0, Revision 3 (Draft), Section "II. Acceptance Criteria," states that the staff determines whether, "...the technical adequacy of the PRA is sufficient to justify the specific results and risk insights that are used to support the DC or COL application. Toward this end, the applicant's PRA submittal should be consistent with prevailing PRA standards, guidance, and good practices as needed to support its uses and applications and as endorsed by the NRC (e.g., RG 1.200)."

To allow the staff to reach a reasonable assurance finding on APR1400 PRA technical adequacy of the PRA, please provide the following information related to cutsets, accident sequences, and truncation by updating the DCD and supporting documents, as necessary, for the items below.

- a) Additional cutset and accident sequence information
 - 1) For each combination of hazard group (e.g., internal, fire, flooding), operational mode (e.g., at-power, low power and shutdown), and PRA Level (e.g., Level 1, Level 2) analyzed in the APR1400 design certification PRA, please update the DCD cutsets tables to include the basic event probabilities.
 - 2) In addition, please include in the DCD, tables of accident sequence information, similar to Table 19.1-18 "Level 1 Internal Events Top Accident Sequences," (e.g., sequence ID, frequency, cumulative contribution, sequence cutsets, sequence summary description), for the other PRA models.
 - 3) For each combination of hazard group (e.g., internal, fire, flooding), operational mode (e.g., at-power, low power and shutdown), and PRA Level (e.g., Level 1, Level 2) analyzed in the APR1400 design certification PRA, please update the

cutsets tables to cover a sufficiently comprehensive portion (e.g., 95 percent) of the corresponding cumulative core damage frequency and large release frequency. Also, please include the basic event probabilities in these tables.

b) Truncation limit justification

For each combination of hazard group (e.g., internal, fire, flooding), operational mode (e.g., at-power, low power and shutdown), and PRA Level (e.g., Level 1, Level 2) analyzed in the APR1400 design certification PRA, please specify and justify the chosen truncation limit, with the exception of LPSD Level 1 analyses (internal events, fire, and flooding).

Response

- a) The revised DCD 19.1 including additional cutsets and accident sequence information will be provided using the CAFTA model after the model development. Since the cutset information that cover a sufficiently comprehensive portion (e.g., 90 or 95 percent) of the cumulative core damage frequency and large release frequency is too large to be included in the DCD, the information will be made available in the Electronic Reading Room for the inspection.
- b) The truncation limits set for all Level 1 analyses were based on several factors. Note that the ASME Standard (ASME/ANS RA-Sb-2013) supporting requirements concerning truncation states:

QU-B2: TRUNCATE accident sequences and associated system models at a sufficiently low cutoff value that dependencies associated with significant cutsets or accident sequences are not eliminated. NOTE: Truncation should be carefully assessed in cases where cutsets are merged to create a solution (e.g., where system level cutsets are merged to create sequence level cutsets).

QU-B3: ESTABLISH truncation limits by an iterative process of demonstrating that the overall model results converge and that no significant accident sequences are inadvertently eliminated. For example, convergence can be considered sufficient when successive reductions in truncation value of one decade result in decreasing changes in CDF, and the final change is less than 5%.

The truncation analyses for the APR1400 DC PRA models were performed by quantifying each model several times starting at a truncation level a few orders of magnitude below the anticipated CDF/LRF, and performing successive quantifications each at a decade lower truncation level down to 1E-15, if possible. The results were reviewed, and truncation limits were chosen, taking into consideration several factors including: numerical convergence, the total number of cutsets, the inclusion of the risk significant accident sequences in the final results, and the inclusion of risk significant dependencies.

It must also be understood that there are limitations in PRA Codes and in the memory available in "standard PCs" to handle extremely large numbers of cutsets. The CAFTA PRA Code System currently allows several million cutsets to be generated, but appears

to reach a limit around 10 million merged cutsets. This can result in the ability to quantify individual sequences at a very low truncation level, however, the results may not be able to be merged into a common set of cutsets. If the cutsets are not merged, they cannot be minimized, nor can overall importances be calculated. Therefore, in addition to the factors listed in the previous paragraph, it must be understood that at times it may be difficult, or impossible to achieve numerical convergence. However, in these cases, as long as there are a sufficient number of cutsets which include the risk significant sequences, and a review of the cutsets demonstrates that risk significant dependencies are included, then the truncation level can be stated as being sufficient to allow use of the cutsets for additional studies (e.g., risk ranking).

Likewise, simple numerical convergence may not be sufficient to determine a truncation level. Some models may numerically converge at a relatively high truncation level, but there may be an insufficient number of cutsets to ensure that risk significant accident sequences and dependencies are included. Hence, additional analysis should be performed prior to establishing the truncation level.

Based on the above discussion, the truncation values for each of the L1 PRA models was set to 1E-13. A discussion of the applicability of the truncation level to each model is provided below:

1) Full Power Internal Events Level 1 PRA

The full power internal events (FP-IE) level 1 (L1) model was quantified using successively lower order of magnitude truncation values from 1E-08 to 1E-15. The final truncation chosen was 1E-13 based on the following:

- The % increase in CDF from 1E-12 to 1E-13 is about 12.5%, and the increase from 1E-13 to 1E-14 is about 8.4%. The model will quantify at 1E-15, but the individual accident sequence files are too large to merge into a common cutset file.
- The number of minimal cutsets generated at 1E-13 and 1E-14 is 581,189 and 4,223,792 respectively. Both truncation levels provide an adequate number of cutsets; however, the file size of the 1E-14 truncation is too large (about 500 MB) to allow manipulation of the cutsets without occasionally crashing.
- The truncation at 1E-13 results in 12 of 128 accident sequences with no cutsets. Truncation at 1E-14 results in 3 of 128 accident sequences with a no cutsets, so were 9 additional accident sequences represented in the 1E-14 cutsets which are not in the 1E-13 cutsets. However, the cumulative CDF of these 9 additional accident sequences is 7.72E-12 which represents about 0.0006% of the total 1E-13 CDF of 1.30E-06. Therefore, the non-inclusion of these 9 accident sequences in the 1E-13 CDF results will not likely change the results of any studies performed on the cutsets.
- Review of the cutsets at 1E-13 and 1E-14 demonstrates all postulated accidents, and credited systems are represented in the 1E-13 cutsets with the exception of the Circulating Water (CW) System which does appear in the 1E-14 cutsets. The CW system provides water to the Turbine Generator Building Open Cooling Water

(TGBOCW) system which provides cooling to the TGB Closed Cooling Water (TGBCCW) system which cools the condensate pumps, air compressors and the start-up feedwater pump. The CW system is a six train system, and post-trip only 1 of 6 pumps is required to run. Therefore, due to the inherent train redundancy, the CW system is not expected to be a significant contributor to the APR1400 DC PRA model. In fact, using the 1E-14 cutsets, and setting all CW equipment basic events to FALSE results in no appreciable change in the CDF (F-V approaching 0). Also, setting any one CW component basic event to TRUE results in a RAW of $1.0007 \ll 2$, and setting all CW random failures to TRUE still only results in a RAW of $1.006 \ll 2$. Further, setting the 6 of 6 common cause CW pump failure to TRUE results in a RAW of $2.43 \ll 20$. Therefore, although quantifying at 1E-13 does not capture the CW system dependency, the impact of not including the dependency is not risk significant.

In conclusion, quantification of the FP-IE L1 model at a truncation level of 1E-13 is deemed to provide an acceptable set of minimal accident sequence cutsets. It provides a usable set of over 500,000 cutsets which incorporates all risk significant accident sequences and dependencies of the PRA model.

Note that the intent of SR's QU-B2 and QU-B3 are to ensure that "dependencies associated with significant cutsets or accident sequences are not eliminated," and to demonstrate "that the overall model results converge and that no significant accident sequences are inadvertently eliminated," respectively. Although the model does not converge well, all other requirements can be shown to be met. Note that the 5% increase stated in QU-B3 is only an example, and is not a requirement. The % increase should be used in combination with the other requirements to ensure risk significant information is included in the final cutsets.

The likely cause of the non-convergence is the high level of redundancy of the systems credited in the APR1400 DC PRA. In addition, incorporation of the components of the digital control systems increases the complexity of the models. Most existing plants have 2 or at most 3 trains, and numerical convergence is easily achieved with the processing power and memory of current PCs. However, having a 4 train plant pushes the limits of today's computing technology, and therefore, convergence may not be possible. Hence, when numerical convergence cannot be met, one must ensure that risk significant sequences, equipment and dependencies are contained in the final cutsets.

2) Full Power Fire Level 1 PRA

The full power fire (FP-Fire) level 1 (L1) model was quantified using successively lower order of magnitude truncation values from 1E-07 to 1E-14. The final truncation chosen was 1E-12 based on the following:

- The % increase in CDF from 1E-11 to 1E-12 is about 15.0%, and the increase from 1E-12 to 1E-13 is about 8.4%. The increase from 1E-13 to 1E-14 drops to about 4.5%, but the resultant cutset file (over 3.7 million cutsets) is too large to manipulate without crashing. Based on the above, a starting point for evaluation of an adequate truncation level would be at 1E-13. However, due to the

complexity of the model, the FP-Fire Level 2 (L2) analysis cannot be quantified at 1E-13. Therefore, to maintain quantification consistency between the FP-Fire L1 and L2 results, the FP-Fire L1 will be quantified at 1E-12. The remaining bullets below provide additional justification for FP-Fire L1 quantification at 1E-12.

- The number of minimal cutsets generated at 1E-12 is 101,777 providing an adequate number of cutsets.
- The truncation at 1E-12 results in 97 of 480 fire initiators with no cutsets. Truncation at 1E-13 results in 1 of 480 fire initiators with no cutsets, so were 96 additional fire initiators represented in the 1E-13 cutsets which are not in the 1E-12 cutsets. However, the F-V of each of these 96 fire initiators is about 0, and the cumulative F-V of these 96 additional fire initiators is 0.0220%. Therefore, the non-inclusion of these 96 fire initiators in the 1E-12 CDF results will not likely change the results of any studies performed on the cutsets.
- Review of the fire initiators, operator action, basic event and common cause event importances of FP-Fire L1 quantification at 1E-12 and 1E-13, as well as review of the FP-IE L1 event and common cause importances truncated at 1E-13 (see above for justification of FP-IE L1 quantification at 1E-13) demonstrates that there would be no risk significant fire scenarios, operator actions, or components excluded due to FP-Fire quantification at 1E-12.

In conclusion, quantification of the FP-IE L1 model at a truncation level of 1E-12 is deemed to provide an acceptable set of minimal accident sequence cutsets. It provides a usable set of over 100,000 cutsets which incorporates all risk significant accident sequences and dependencies of the PRA model. In addition, truncation at 1E-12 provides consistency between the L1 and L2 FP-Fire results.

Note that the intent of SR's QU-B2 and QU-B3 are to ensure that "dependencies associated with significant cutsets or accident sequences are not eliminated," and to demonstrate "that the overall model results converge and that no significant accident sequences are inadvertently eliminated," respectively. Although the model does not converge well, all other requirements can be shown to be met. Note that the 5% increase stated in QU-B3 is only an example, and is not a requirement. The % increase should be used in combination with the other requirements to ensure risk significant information is included in the final cutsets.

Like the FP-IE L1 model, the likely cause of the non-convergence is the high level of redundancy of the systems credited in the APR1400 DC PRA. In addition, incorporation of the components of the digital control systems increases the complexity of the models. Most existing plants have 2 or at most 3 trains, and numerical convergence is easily achieved with the processing power and memory of current PCs. However, having a 4 train plant pushes the limits of today's computing technology, and therefore, convergence may not be possible. Hence, when numerical convergence cannot be met, one must ensure that risk significant sequences, equipment and dependencies are contained in the final cutsets.

3) Full Power Flood Level 1 PRA

The full power flood (FP-Flood) L1 model was quantified using successively lower order of magnitude truncation values from 1E-08 to 1E-15. The final truncation chosen was 1E-13 based on the following:

- The % increase in CDF from 1E-12 to 1E-13 is about 21.7%, from 1E-13 to 1E-14 is about 11.0%, and from 1E-14 to 1E-15 is about 6.3%. The model will quantify at 1E-15, and the individual accident sequence files will merge, but the resultant file is too large (about 381 MB) to allow easy manipulation of the cutsets without occasionally crashing.
- The number of minimal cutsets generated at 1E-13 and 1E-14 is 140,137 and 740,544, respectively; hence, both truncation levels provide an adequate number of cutsets for review and analysis.
- Truncation at 1E-13 results in 51 of 137 flood events with no cutsets, and truncation at 1E-14 still results in 35 of 137 flood events with no cutsets; hence, there are 16 additional flood events represented in the 1E-14 cutset when compared to the 1E-13 results. However, the cumulative F-V of these 16 flood events is only about 0.021%. Therefore, the non-inclusion of these 16 flood events in the 1E-13 CDF results will not likely change the results of any flood event importance studies.
- Review of the flood events, operator actions, basic event and common cause event importances of FP-Flood L1 quantification at 1E-13 and 1E-14, as well as review of the FP-IE L1 and FP-Fire L1 event and common cause importances truncated at 1E-13 and 1E-12, respectively (see above for justification of FP-IE L1 quantification at 1E-13, and justification of FP-Fire quantification at 1E-12), demonstrates that there would be no risk significant flood events, operator actions, or components excluded due to FP-Flood quantification at 1E-13.

In conclusion, quantification of the FP-Flood L1 model at a truncation level of 1E-13 is deemed to provide an acceptable set of minimal accident sequence cutsets. It provides a usable set of over 100,000 cutsets which incorporates all risk significant accident sequences and dependencies of the PRA model.

Note that the intent of SR's QU-B2 and QU-B3 are to ensure that "dependencies associated with significant cutsets or accident sequences are not eliminated," and to demonstrate "that the overall model results converge and that no significant accident sequences are inadvertently eliminated," respectively. Although the model does not converge well, all other requirements can be shown to be met. Note that the 5% increase stated in QU-B3 is only an example, and is not a requirement. The % increase should be used in combination with the other requirements to ensure risk significant information is included in the final cutsets.

Like the FP-IE L1 model and the FP-Fire L1 model, the likely cause of the non-convergence is the high level of redundancy of the systems credited in the APR1400 DC PRA. In addition, incorporation of the components of the digital control systems increases the complexity of the models. Most existing plants have 2 or at most 3 trains, and numerical convergence is easily achieved with the processing power and

memory of current PCs. However, having a 4 train plant pushes the limits of today's computing technology, and therefore, convergence may not be possible. Hence, when numerical convergence cannot be met, one must ensure that risk significant sequences, equipment and dependencies are contained in the final cutsets.

4) Full Power Internal Events Level 2 PRA

The Level 2 model begins with Level 1 sequences, and proceeds to separate the sequences through a series of split fractions and fault tree logic gates (success and failures). Therefore, in the Level 2 analysis, some of the Level 1 cutsets will drop below the Level 1 truncation. For example, if the Level 1 truncation is set at 1E-13/yr, a 1E-13 cutset that is split into two equal parts would yield two 5E-14/yr cutsets in the Level 2. If the same 1E-13/yr truncation is utilized in the Level 2, then some of the Level 1 frequency will not be counted in the Level 2. Conversely, if the Level 2 truncation is set at 1E-14/yr, then many cutsets that were truncated in the Level 1 would then appear in the Level 2, and the total Level 2 frequency could increase above the Level 1 total. Ideally, the total Level 2 frequency would equal the total Level 1 frequency, but an exact match cannot be achieved using the CAFTA software. Therefore, setting an appropriate Level 2 truncation is not as straightforward as setting the Level 1 truncation.

Additionally, it is important to note that the Level 2 model necessarily adds complexity to the evaluation of each sequence. The Level 1 truncation discussions above identify that a significant consideration in setting the truncation is the ability for the software to solve the models. Since the Level 1 models are solved with a truncation near the practical limit of the code to solve, it is difficult for the Level 2 models to be solved with a significantly lower truncation than what was used in the Level 1 models.

Since the focus of the Level 2 portion of the Design Certification process is Large Release Frequency (LRF), this is the focus of the Level 2 truncation evaluation. The FPIE LRF was quantified with truncations of 1E-11/yr, 1E-12/yr, 1E-13/yr and 1E-14/yr, with the exception of STCs 20 and 21, which did not successfully quantify at 1E-14/yr. For these STCs, the E-14 truncation is totaled using the cutset files from the E-13/yr truncation.

The % increases in LRF are as follows: 1E-11 to 1E-12: 21%. 1E-12 to 1E-13: 13%. 1E-13 to 1E-14: 5.8%. The model did not solve at 1E-15/yr. The baseline LRF truncation is set at 1E-13/yr for the following reasons:

- The increase in LRF when decreasing from E-12 to E-13 is 13%, which is comparable to the FPIE Level 1 increase from E-12 to E-13.
- The highest LRF Source Term Category (STC) is STC 1, comprised of SGTR LRF sequences and of induced SGTR events. The dominant cutsets in this category have a conditional probability of large release of 1.0 (given core damage). Since their applicable core damage sequences were truncated at 1E-13/yr, lowering the truncation for LRF calculation would yield a higher LRF than the sequences' CDF.

- A 1E-13/yr truncation is one in 10 trillion years, and is more than 6 orders of magnitude lower than the total APR1400 LRF. This is high confidence that nothing significant is missing from these results.
- Results reviews focus on dominant cutset contributors to the LRF. Cutsets in the E-13/yr and below range have not been reviewed in detail, and conservatism in these results exists. Additional recovery actions on these low level cutsets would be expected to reduce their contribution to the total LRF.
- Even if the total APR1400 LRF were increased by 5.8%, the total LRF would still be well below the safety goal of <1E-6/yr.

5) Full Power Fire Level 2 PRA

The Level 2 model begins with Level 1 sequences, and proceeds to separate the sequences through a series of split fractions and fault tree logic gates (success and failures). Therefore, in the Level 2 analysis, some of the Level 1 cutsets will drop below the Level 1 truncation. For example, if the Level 1 truncation is set at 1E-12/yr, a 1E-12 cutset that is split into two equal parts would yield two 5E-13/yr cutsets in the Level 2. If the same 1E-12/yr truncation is utilized in the Level 2, then some of the Level 1 frequency will not be counted in the Level 2. Conversely, if the Level 2 truncation is set at 1E-13/yr, then many cutsets that were truncated in the Level 1 would then appear in the Level 2, and the total Level 2 frequency could increase above the Level 1 total. Ideally, the total Level 2 frequency would equal the total Level 1 frequency, but an exact match cannot be achieved using the CAFTA software. Therefore, setting an appropriate Level 2 truncation is not as straightforward as setting the Level 1 truncation.

Additionally, it is important to note that the Level 2 model necessarily adds complexity to the evaluation of each sequence. The Level 1 truncation discussions above identify that a significant consideration in setting the truncation is the ability for the software to solve the models. Since the Level 1 models are solved with a truncation near the practical limit of the code to solve, it is difficult for the Level 2 models to be solved with a significantly lower truncation than what was used in the Level 1 models.

Since the focus of the Level 2 portion of the Design Certification process is Large Release Frequency (LRF), this is the focus of the Level 2 truncation evaluation. The FP-Fire LRF was quantified with truncations of 1E-10/yr, 1E-11/yr, 1E-12/yr, and 1E-13/yr. The model did not solve at 1E-14/yr.

The % increases in LRF are as follows: 1E-10 to 1E-11: 30%. 1E-11 to 1E-12: 27%. 1E-12 to 1E-13: 17%.

The baseline LRF truncation is set at 1E-12/yr for the following reasons:

- By far, the most dominant LRF cutsets involve either control room evacuation (alternate shutdown failure) or failure of containment isolation. The control room evacuation cutsets are of relatively high frequency, and the LRF from these cutsets is insensitive to low level truncation changes. The cutsets involving containment

isolation failure (those in STC 6) are dominated by fire scenarios that directly disable the containment isolation function. Therefore, these cutsets have a conditional probability of large release of 1.0 (given core damage). Since their applicable core damage sequences were truncated at 1E-12/yr, lowering the truncation for LRF calculation would yield a higher LRF than the sequences' CDF.

- A 1E-12/yr truncation is one in 1 trillion years, and is nearly 6 orders of magnitude lower than the total APR1400 LRF. This is high confidence that nothing significant is missing from these results.
- Results reviews focus on dominant cutset contributors to the LRF. Cutsets in the E-12/yr and below range have not been reviewed in detail, and conservatism in these results exists. Additional recovery actions on these low level cutsets would be expected to reduce their contribution to the total LRF.
- Even if the total APR1400 LRF were increased by 17%, the total LRF would still be well below the safety goal of <1E-6/yr.

6) Full Power Flood Level 2 PRA

The Level 2 model begins with Level 1 sequences, and proceeds to separate the sequences through a series of split fractions and fault tree logic gates (success and failures). Therefore, in the Level 2 analysis, some of the Level 1 cutsets will drop below the Level 1 truncation. For example, if the Level 1 truncation is set at 1E-13/yr, a 1E-13 cutset that is split into two equal parts would yield two 5E-14/yr cutsets in the Level 2. If the same 1E-13/yr truncation is utilized in the Level 2, then some of the Level 1 frequency will not be counted in the Level 2. Conversely, if the Level 2 truncation is set at 1E-14/yr, then many cutsets that were truncated in the Level 1 would then appear in the Level 2, and the total Level 2 frequency could increase above the Level 1 total. Ideally, the total Level 2 frequency would equal the total Level 1 frequency, but an exact match cannot be achieved using the CAFTA software. Therefore, setting an appropriate Level 2 truncation is not as straightforward as setting the Level 1 truncation.

Additionally, it is important to note that the Level 2 model necessarily adds complexity to the evaluation of each sequence. The Level 1 truncation discussions above identify that a significant consideration in setting the truncation is the ability for the software to solve the models. Since the Level 1 models are solved with a truncation near the practical limit of the code to solve, it is difficult for the Level 2 models to be solved with a significantly lower truncation than what was used in the Level 1 models.

Since the focus of the Level 2 portion of the Design Certification process is Large Release Frequency (LRF), this is the focus of the Level 2 truncation evaluation. The FP-Flood LRF was quantified with truncations of 1E-11/yr, 1E-12/yr, 1E-13/yr, 1E-14 and 1E-15/yr.

The % increases in LRF are as follows: 1E-11 to 1E-12: 44%. 1E-12 to 1E-13: 37%. 1E-13 to 1E-14: 29%. 1E-14 to 1E-15: 17%.

The baseline LRF truncation is set at 1E-14/yr for the following reasons:

- Unlike the FPIE and FP-Fire LRF discussions above, the FP-Flood LRF is not dominated by cutsets with a conditional probability of 1.0, and therefore it is significantly more susceptible to Level 1 frequency being truncated if the same truncation was used for both Level 1 and Level 2. Since the FP-Flood Level 1 model was truncated at 1E-13/yr, an order of magnitude lower truncation would capture the significant frequency from the Level 1 sequences.
- A 1E-14/yr truncation is one in 100 trillion years, and is more than 7 orders of magnitude lower than the total APR1400 LRF. This is high confidence that nothing significant is missing from these results, and that a lower truncation is not necessary.
- Results reviews focus on dominant cutset contributors to the LRF. Cutsets in the E-14/yr and below range have not been reviewed in detail, and conservatism in these results exists. Additional recovery actions on these low level cutsets would be expected to reduce their contribution to the total LRF.
- Even if the total APR1400 LRF were increased by 17%, the total LRF would still be well below the safety goal of <1E-6/yr.

7) Low Power and Shutdown Internal Events Level 1 PRA

The low power and shutdown internal events (LPSD-IE) L1 model was quantified using successively lower order of magnitude truncation values from 1E-08 to 1E-15.

The final truncation chosen was 1E-13 based on the following:

- The % increase in CDF from 1E-11 to 1E-12 is about 3.1% which demonstrates an acceptable increase for numerical convergence; however, there are too few minimal cutsets at 1E-12 (24,656) to ensure that risk significant accident scenarios and dependencies are captured. The % increase in CDF from 1E-12 to 1E-13 is about 1.2% which further demonstrates numerical convergence; however, the 1E-13 quantification produces a significantly larger number of minimal cutsets (126,581).
- The truncation at 1E-13 results in 5 of 198 accident sequences with no cutsets. Truncation at 1E-14 results in 0 of 198 accident sequences with a no cutsets, so were 5 additional accident sequences represented in the 1E-14 cutsets which are not in the 1E-13 cutsets. However, the cumulative CDF of these 5 additional accident sequences is 8.92E-13 which represents about 0.00003% of the total 1E-13 CDF of 2.79E-06. Therefore, the non-inclusion of these 5 accident sequences in the 1E-13 CDF results will not likely change the results of any studies performed on the cutsets.
- Review of the cutsets at 1E-13 and 1E-14 demonstrates all postulated accidents, and credited systems are represented in the cutsets with the exception of the CW system; however, CW basic events do not even show up in the 1E-15 truncation cutsets which includes over 2.5 million cutsets demonstrating the insignificance of the CW with respect to LPSD-IE CDF. Therefore, although quantifying at 1E-13

does not capture the CW system dependency, the impact of not including the dependency is not risk significant.

In conclusion, quantification of the LPSD-IE L1 model at a truncation level of 1E-13 is deemed to provide an acceptable set of minimal accident sequence cutsets. It provides a usable set of over 126,000 cutsets which incorporates all risk significant accident sequences and dependencies of the PRA model.

Note that the intent of SR's QU-B2 and QU-B3 are to ensure that "dependencies associated with significant cutsets or accident sequences are not eliminated," and to demonstrate "that the overall model results converge and that no significant accident sequences are inadvertently eliminated," respectively. Although the model converges well at 1E-12 with only a 3.1% increase in CDF, all of the other requirements may not be met due to the small number of cutsets. Note that the 5% increase stated in QU-B3 is only an example, and is not a requirement. The % increase should be used in combination with the other requirements to ensure risk significant information is included in the final cutsets.

Finally, note that the ease in convergence of the LPSD-IE model is due to the fact that the main function during shutdown (continued shutdown cooling) is made up of a two train system, and one of those trains is already failed as a result of the postulated initiating event. In addition, although the transition modes, Plant Operating States (POS) 1, 2, 14 and 15 credit all four trains, the duration in these POSs is so small that the CDF impact of this portion of the model with respect to the shutdown POSs 3a – 13 is not risk significant.

8) Low Power and Shutdown Fire Level 1 PRA

The LPSD Fire L1 model was quantified using successively lower order of magnitude truncation values from 1E-08 to 1E-15. The final truncation chosen was 1E-13 based on the following:

- The % increase in CDF from 1E-10 to 1E-11 is about 2.5% which demonstrates an acceptable increase for numerical convergence; however, there are too few minimal cutsets at 1E-11 (1,925) to ensure that risk significant accident scenarios and dependencies are captured. The % increase in CDF from 1E-11 to 1E-12 is about 1.2%, and from 1E-12 to 1E-13 is about 0.7% which further demonstrates numerical convergence; however, the 1E-13 quantification produces a significantly larger number of minimal cutsets (45,213).
- The truncation at 1E-13 results in 242 fire initiators. Truncation at 1E-15 results in 255 fire initiators, so were 13 additional fire initiators represented in the 1E-15 cutsets which are not in the 1E-13 cutsets. However, the cumulative FV of these 13 additional fire initiators is about less than 0.00001%. Therefore, the non-inclusion of these 13 fire initiators in the 1E-13 CDF results will not likely change the results of any studies performed on the cutsets.
- Review of the fire initiators, operator actions, basic event and common cause event importances of LPSD-Fire L1 quantification at 1E-13 and 1E-15, as well as

review of the FP-IE L1 event and common cause importances truncated at 1E-13 (see above for justification of FP-IE L1 quantification at 1E-13) demonstrates that there would be no risk significant fire initiators, operator actions, or components excluded due to LPSD-Fire quantification at 1E-13.

In conclusion, quantification of the LPSD-Fire L1 model at a truncation level of 1E-13 is deemed to provide an acceptable set of minimal accident sequence cutsets. It provides a usable set of over 45,000 cutsets which incorporates all risk significant accident sequences and dependencies of the PRA model.

Note that the intent of SR's QU-B2 and QU-B3 are to ensure that "dependencies associated with significant cutsets or accident sequences are not eliminated," and to demonstrate "that the overall model results converge and that no significant accident sequences are inadvertently eliminated," respectively. Although the model converges well at 1E-11 with only a 2.5% increase in CDF, all of the other requirements may not be met due to the small number of cutsets. Note that the 5% increase stated in QU-B3 is only an example, and is not a requirement. The % increase should be used in combination with the other requirements to ensure risk significant information is included in the final cutsets.

Finally, note that the ease in convergence of the LPSD-Fire model is due to the fact that the main function during shutdown (continued shutdown cooling) is a made up of a two train system, and one of those trains is already failed as a result of the postulated initiating event.

Impact on DCD

There is no impact on the DCD.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

There is no impact on any Technical, Topical, or Environmental Report.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 418-8348
SRP Section: SRP 19
Application Section: 19.1
Date of RAI Issue: 02/23/2016

Question No. 19-45

10 CFR 52.47(a)(27) requires that a standard design certification applicant provide a description of the design-specific PRA. SRP Chapter 19.0, Revision 3, Section "II. Acceptance Criteria," states that the staff determines whether, "...the technical adequacy of the PRA is sufficient to justify the specific results and risk insights that are used to support the DC or COL application. Toward this end, the applicant's PRA submittal should be consistent with prevailing PRA standards, guidance, and good practices as needed to support its uses and applications and as endorsed by the NRC (e.g., RG 1.200)."

It also states that, "...the applicant's uncertainty analysis identifies major contributors to the uncertainty associated with the estimated risks."

SRP Chapter 19.0, Revision 3, Section "III. Review Procedures," states:

"The staff will determine that the applicant has performed sensitivity studies sufficient to gain insights about the impact of uncertainties (and the potential lack of detailed models) on the estimated risk. The objectives of the sensitivity studies should include (1) determining the sensitivity of the estimated risk to potential biases in numerical values, such as initiating event frequencies, failure probabilities, and equipment unavailabilities, (2) determining the impact of the potential lack of modeling details on the estimated risk, and (3) determining the sensitivity of the estimated risk to previously raised issues (e.g., motor-operated valve reliability)."

It also states:

"...it is acceptable to make bounding-type assumptions consistent with the guidelines in RG 1.200. However, the risk models should still be able to identify vulnerabilities as well as design and operational requirements such as ITAAC and COL action items. In addition, the bounding assumptions should not mask any risk-significant information about the design and its operation."

To allow the staff to reach a reasonable assurance finding on the scope, level of detail, and technical adequacy of the APR1400 design certification PRA, the staff needs to understand how uncertainties in key assumptions impact risk quantification and risk insights. The staff notes that NUREG-1855, Revision 1, "Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decisionmaking," discusses the three types of uncertainty: completeness, parametric, and modeling. Based on review of the DCD, the staff finds that both the identification of key assumptions and the assessment of uncertainty in the stated key assumptions may not be complete. For low power and shutdown, the staff noted the statement in DCD Sections 19.1.6.1.2.7 and 19.1.6.3.2.4 that, "Modeling uncertainty is not represented in the shutdown model."

The staff reviewed Table 19.1-4 of the DCD which lists the key assumptions used in the PRA. However, Table 19.1-4 does not identify any key assumptions related to several PRA models (e.g., internal fire at power, internal flooding at power, as well as low power and shutdown). Furthermore, the staff finds that in some areas, the DCD does not document the evaluation of uncertainties associated with the key assumptions in Table 19.1 4. Identification of key assumptions in the DC application is important as the staff would need to validate this information for a future COL application referencing the DC.

Below are some example assumptions that should be evaluated for uncertainty:

- conditional core damage and large release probability associated with main control room abandonment scenarios
- fire ignition frequencies (e.g., consideration of more recent at-power and LPSD fire ignition frequency estimates)
- fraction of the room volume filled by equipment for internal flooding analysis
- RCP seal failure probability and model
- human error probabilities

To address the issues described above:

- a) Update the DCD with a comprehensive assessment (not limited to these examples) of the impact of uncertainties in key assumptions:
 - risk insights, such as risk-significant equipment or operator actions, and important accident sequences, and
 - risk quantifications (of CDF and LRF)
- b) Ensure that the uncertainty assessment considers all PRA models included in the APR1400 DC PRA (i.e., all operating modes, hazards, and PRA levels).
- c) Ensure that any key assumptions related to any PRA model are identified in DCD Table 19.1 4.

Response

- a) A comprehensive assessment of the impact of uncertainties in key assumptions will be performed with considerations of risk insights and risk quantifications of CDF and LRF using the CAFTA model after the CAFTA model is developed.

Some example assumptions (not limited to these examples) that will be evaluated for uncertainty are as follows:

- fire ignition frequencies (e.g., consideration of more recent fire ignition frequency estimates)
 - RCP seal failure probability and model (e.g., based on new technical bases)
 - Room heat-up calculations (e.g., based on new calculations)
- b) The uncertainty assessment will consider all PRA models included in the APR1400 DC PRA (i.e., all operating modes, hazards, and PRA levels) using the CAFTA model after the CAFTA model is developed.
- c) During the uncertainty assessment, key assumptions related to all PRA models will be identified in DCD Table 19.1-4, as applicable.

Impact on DCD

There is no impact on the DCD.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

There is no impact on any Technical/Topical/Environmental Report.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 418-8348
SRP Section: SRP 19
Application Section: 19.1
Date of RAI Issue: 02/23/2016

Question No. 19-52

10 CFR 52.47(a)(27) requires that a standard design certification applicant provide a description of the design specific PRA.

SRP Chapter 19.0, Revision 3, Section II, "Acceptance Criteria," states that the staff determines whether, "...the technical adequacy of the PRA is sufficient to justify the specific results and risk insights that are used to support the DC or COL application. Toward this end, the applicant's PRA submittal should be consistent with prevailing PRA standards, guidance, and good practices as needed to support its uses and applications and as endorsed by the NRC (e.g., RG 1.200)."

To ensure that the potential flood sources (systems) for both at-power and LPSD conditions are properly evaluated, please include the following in the DCD for both at-power and LPSD conditions: 1) the flood sources that were screened out and associated basis for screening, and 2) the flood sources that were screened in (i.e., explicitly modeled in the PRA). For each screened in flood source, please provided the estimated liquid volume that could be released.

Response

The flood sources that were screened out are presented in Table 1 including the associated basis for screening and the flood sources that were screened in are presented in Table 2 (See Attachment 1). This information will be added in DCD Section 19.1.5.3.1.3.

Impact on DCD

DCD Section 19.1.5.3.1.3 will be revised as shown in Attachment 2.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

There is no impact on any Technical, Topical, or Environmental Report.

Table 1
Screened Flood Sources by Flood Area

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
050-A01C	No - Failure of the equipment in this room will render one train of containment spray inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	≤250 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		CV	All	No	Pipe is dry	None	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
050-A01D	No - Failure of the equipment in this room will render one train of containment spray inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		CV	All	No	Pipe is dry	None	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
50-A02C	No - Failure of the equipment in this room will render one train of safety injection inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		SI	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		CV	All	No	Pipe is dry	None	
		FP	All	No	Break will not result in a reactor trip	<43,200 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
050-A02D	No - Failure of the equipment in this room will render one train of safety injection inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		SI	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		CV	All	No	Pipe is dry	None	
		FP	All	No	Break will not result in a reactor trip	<43,200 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
050-A03A	No - Failure of the equipment in this room will render one train of safety injection inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		SI	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		CV	All	No	Pipe is dry	None	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
050-A03B	No - Failure of the equipment in this room will render one train of safety injection inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		SI	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		CV	All	No	Pipe is dry		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
050-A04A	No - Failure of the equipment in this room will render one train of SC inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	
		SI	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	<94,000 gal	
		CV	All	No	Pipe is dry	None	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
050-A04B	No - Failure of the equipment in this room will render one train of SC inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	
		SI	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	<94,000 gal	
		CV	All	No	Pipe is dry	None	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A01C	No - Failure of the equipment in this room will render one train of containment spray inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	≤250 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
	No - Failure of the equipment in this room will render one train of containment spray inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<90,000 gal	
		CV	All	No	Pipe is dry	None	
		FP	≤500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<90,000 gal	
		WL	≤1000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		WM	≤1600 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<288,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A01D	No - Failure of the equipment in this room will render one train of containment spray inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	≤250 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<90,000 gal	
		CV	All	No	Pipe is dry	None	
		WM	≤1600 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<288,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A02A	No – A flood in this room will render CCW Pump 1A inoperable but will not place the plant in a LCO per TS.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A02B	No – A flood in this room will render CCW Pump 1B inoperable but will not place the plant in a LCO per TS.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
055-A02B	No – A flood in this room will render CCW Pump 1B inoperable but will not place the plant in a LCO per TS.	FP	All	No	Break will not result in a reactor trip	<43,200 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A02C	No – A flood in this room will render CCW Pump 2A inoperable but will not place the plant in a LCO per TS.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A02D	No – A flood in this room will render CCW Pump 2B inoperable but will not place the plant in a LCO per TS.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FP	All	No	Break will not result in a reactor trip	<43,200 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A03C	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	≤3000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	>295,000 gal	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<130,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A03D	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal	
		FP	≤3000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	>295,000 gal	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<72,000 gal	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<130,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A04C	No – room contains no flood-susceptible, PRA-related equipment.	FP	≤3000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<126,000 gal	
055-A04D	No – room contains no flood-susceptible, PRA-related equipment.	FP	≤3000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<126,000 gal	
055-A05C	No – room contains no flood-susceptible, PRA-related equipment.	FP	≤3000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A05D	No – room contains no flood-susceptible, PRA-related equipment.	FP	≤3000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal	
055-A07C	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A07D	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CV	All	No	Pipe is dry	None	
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A08C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A11D	No - Failure of the equipment in this room will render one train of CCW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
055-A14C	No - Failure of the equipment in this room will render one train of containment spray and one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CV	All	No	Pipe is dry	None	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
055-A14D	No - Failure of the equipment in this room will render one train of containment spray and one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CV	All	No	Pipe is dry	None	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A18A	No – room contains no flood-susceptible, PRA-related equipment.	AF	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	AFWST contents	
		CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CS	<500 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	<90,000 gal	
		SI	<500 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	<90,000 gal	No – room contains no flood-susceptible, PRA-related equipment.
		CV	All	No	Pipe is dry	None	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A18B	No – room contains no flood-susceptible, PRA-related equipment.	AF	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	AFWST contents	Failure of the AF piping in this room will render one train of AF inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
		CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Failure of the CC piping in this room will render one train of CCW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
		CS	<500 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	<90,000 gal	
		SI	<500 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	<90,000 gal	
		FP	<4100 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	745,000 gal	
		CV	All	No	Pipe is dry	None	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A19A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<2500 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	450,000 gal	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		SI	All	No	Break will not result in a reactor trip		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A19B	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	
		FP	<2800 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	504,000 gal	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		SI	All	No	Break will not result in a reactor trip		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A20A	No – room contains no flood-susceptible, PRA-related equipment.	FP	<1900 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	342,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A20B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<2700 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	486,000 gal	
055-A21A	No - Failure of the equipment in this room will render one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CS	<3000 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	IRWST contents	
		SI	<3000 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	IRWST contents	
		CV	All	No	Pipe is dry	None	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A21B	No - Failure of the equipment in this room will render one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CS	<3000 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	IRWST contents	
		SI	<3000 gpm	No	Propagation cannot cause other equipment damage that would require a reactor trip.	IRWST contents	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A22A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CS	All	No	Piping is normally isolated		
		FC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.		
		SD	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	15,500 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A22B	No – room contains no flood-susceptible, PRA-related equipment.	CS	All	No	Piping is normally isolated		
		CV	All	No	Break will not result in a reactor trip		
		FC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.		
		SI	All	No	Piping is normally isolated.		
055-A30A	No - Failure of the equipment in this room will render one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		SI	All	No	Piping is normally isolated and a break will not result in a reactor trip		
		CV	All	No	Break will not result in a reactor trip		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A30B	No - Failure of the equipment in this room will render one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	
		SI	All	No	Piping is normally isolated.		
		CV	All	No	Piping is normally dry.	None	
		FP	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	311,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A33A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		
055-A33B	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Piping is normally dry.		
055-A34B	No – room contains no flood-susceptible, PRA-related equipment.	WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A35A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		
		FP	<2500	No	Propagation cannot cause other equipment damage that would require a reactor trip.	450,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A36A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		
		FP	<2500	No	Propagation cannot cause other equipment damage that would require a reactor trip.	450,000 gal	
055-A38A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		
055-A39A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A42A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A43A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CV	All	No	Break will not result in a reactor trip		
055-A45A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		
		FC	All	No	Break will not result in a reactor trip		
		SD	All	No	Break will not result in a reactor trip	15,500 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A46B	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
		AX	All	No	Break will not result in a reactor trip		
		CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
055-A48B	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division II CC is included as an initiating event in the internal events model.
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
055-A49B	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A50B	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	No reactor trip is expected.		
		FP	<1100	No	Propagation cannot cause other equipment damage that would require a reactor trip.	198,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A51B	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		
055-A52B	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Piping is normally isolated.		
055-A53B	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Piping is normally isolated.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A54B	No - Failure of the equipment in this room will neither cause nor require an immediate plant shutdown	CV	All	No	Break will not result in a reactor trip		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A55B	No - Failure of the equipment in this room will neither cause nor require an immediate plant shutdown	CV	All	No	Break will not result in a reactor trip		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
055-A56A	No - Failure of the equipment in this room will neither cause nor require an immediate plant shutdown	CV	All	No	Break will not result in a reactor trip		
055-A56B	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A57C	No - Failure of the CC piping in this room will render one train of CCW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break is not expected to cause other equipment damage due to propagation.	83,000 gal	
		CS	<500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<94,000 gal	
		DO	All	No	Break will not result in a reactor trip		
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	666,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
055-A57D	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	666,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
055-A58A	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Piping is normally isolated		
		CV	All	No	Break fails only affected system		
		FC	All	No	Break will not result in a reactor trip		
		SD	All	No	Break will not result in a reactor trip	15,500 gal	
055-A59A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Piping is normally isolated.		
068-A01A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Piping is normally isolated.		
		FC	All	No	Break will not result in a reactor trip		
		SD	All	No	Piping is normally isolated.	15,500 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
068-A06A	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
		CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CV	All	No	Piping is normally isolated.		
		FC	All	No	Break will not result in a reactor trip		
		WI	All	No	Break will not result in a reactor trip		
068-A07A	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Piping is normally isolated.		
		CV	All	No	Break fails only affected system		
		FC	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is normally isolated.		
		PX	All	No	Piping is normally isolated.		
		WV	All	No	Piping is normally isolated.		
		WX	All	No	Piping is normally isolated.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
068-A08B	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
		CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FC	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is normally isolated.		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
068-A09B	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Piping is normally isolated.		
068-A10A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WX	All	No	Piping is normally isolated.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
068-A11A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FC	All	No	Break will not result in a reactor trip		
		SD	All	No	Break will not result in a reactor trip	15,500 gal	
		WX	All	No	Piping is normally isolated.		
068-A12A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
065-A01C	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	DO	All	No	Design flood barriers prevent propagation to areas containing PRA equipment.		
		FP	All	No	Design flood barriers prevent propagation to areas containing PRA equipment.		
065-A01D	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	DO	All	No	Design flood barriers prevent propagation to areas containing PRA equipment.		
		FP	All	No	Design flood barriers prevent propagation to areas containing PRA equipment.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A01C	No –equipment damage will not result in a reactor trip.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
078-A01D	No –equipment damage will not result in a reactor trip.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		FP	<2180 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	393,000 gal	
078-A02C	Yes – Loss of switchgear places plant in 8-hour LCO per TS.	FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
078-A02D	Yes – Loss of switchgear places plant in 8-hour LCO per TS.	FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
078-A06C	No –equipment damage will not result in a reactor trip.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
078-A06D	No –equipment damage will not result in a reactor trip.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A10C	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	All lines are dry or isolated		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<2180 gpm	No	credibly last long enough to propagate and cause other equipment damage	393,000 gal	
		WD	All	No	credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal (1000 gpm x 180 min)	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A10D	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	All lines are dry or isolated		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FP	<3700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	666,000 gal	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A11C	No - Failure of the CC piping in this room will render one train of WO inoperable and place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	AX	All	No	All lines are dry or isolated		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
078-A11D	No - Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A12C	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	24,700 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
078-A12D	No - Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
078-A13D	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A15C	No – Failure of the equipment in this room will render one train of AFW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	AX	All	No	All lines are dry or isolated		
		AF	<2180	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CF	All	No	Piping is normally isolated		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	24,700 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A15D	No – Failure of the equipment in this room will render one train of AFW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	AF	<2180	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		AX	All	No	All lines are dry or isolated		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CF	All	No	Piping is normally isolated		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	24,700 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
078-A17C	No – room contains no flood-susceptible, PRA-related equipment.	CF	All	No	Piping is normally isolated		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A17D	No – room contains no flood-susceptible, PRA-related equipment.	CF	All	No	Piping is normally isolated and is not expected to cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A19A	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Piping is normally isolated		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<1200 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	216,000 gal	
		SD	All	No	Piping is normally isolated.		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	300,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A19B	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Piping is normally isolated		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FP	<400 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	72,000 gal.	
		SD	All	No	Piping is normally isolated.		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	<400	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A20A	No – Failure of the equipment in this room will render one train of AFW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	AF	<1200	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<216,000 gal	
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		SD	All	No	Piping is normally isolated.		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A20B	No – Failure of the equipment in this room will render one train of AFW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	AF	<1200	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<216,000 gal	
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CF	All	No	Piping is normally isolated.		
		FP	<400 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<72,000 gal.	
		SD	All	No	Piping is normally isolated.		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A21A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FC	All	No	Break will not result in a reactor trip		
		SD	All	No	Piping is normally isolated.		
		SI	<245 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
078-A21B	No – room contains no flood-susceptible, PRA-related equipment.	CF	All	No	Piping is normally isolated		
		CS	All	No	Piping is normally isolated		
		CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FC	All	No	Break will not result in a reactor trip		
		SD	All	No	Break will not result in a reactor trip		
		SI	<1400 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<252,000 gal.	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A22B	No - Failure of equipment in the room renders one channel of ESF inoperable. This will place the plant in a 48-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
078-A25A	Yes – Loss of switchgear places plant in 8-hour LCO per TS.	FP	All	No	Piping is for CO2 and would not fail equipment in the room.	None	
078-A25B	Yes – Loss of switchgear places plant in 8-hour LCO per TS.	FP	All	No	Piping is for CO2 and would not fail equipment in the room.	None	
078-A29B	No – room contains no flood-susceptible, PRA-related equipment.	CC	<400 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<72,000 gal.	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A29C	No – room contains no flood-susceptible, PRA-related equipment.	CC	<1900 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<342,000 gal.<	
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A31A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CV	All	No	Piping is dry or isolated.		
		FP	<2250 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<405,000 gal.	
		SD	All	No	Piping is normally isolated.		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
078-A32A	No – room contains no flood-susceptible, PRA-related equipment.	FC	All	No	Break will not result in a reactor trip		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A33A	No – room contains no flood-susceptible, PRA-related equipment.	FC	All	No	Break will not result in a reactor trip		
		SD	All	No	Piping is normally isolated.		
078-A34A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
078-A35A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
078-A36A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
078-A37A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
078-A38A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Piping is normally isolated.		
		FC	All	No	Break will not result in a reactor trip		
078-A39A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Piping is normally isolated.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A40B	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WV	All	No	Piping is normally dry.		
078-A41B	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CF	All	No	Piping is normally isolated.		
		SD	All	No	Piping is normally isolated.		
078-A42B	No – room contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A43B	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<198,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A44B	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break is not expected to cause other equipment damage due to propagation.	83,000 gal	
		CF	All	No	Piping is normally isolated.		
		CV	All	No	Piping is dry		
		FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	198,000 gal	
		SD	All	No	Piping is normally isolated.	15,500 gal	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A47B	No - Failure of equipment in the room renders one channel of ESF inoperable. This will place the plant in a 48-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		SD	All	No	Piping is normally isolated.		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
078-A49B	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	198,000 gal.	
078-A50B	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<420,000	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
078-A51B	No – no equipment damage will result from this source.	CV	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<250,000	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
078-A57C	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<2500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<450,000 gal.	
055-A57D	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Piping is normally isolated.		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CT	<1000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<230,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A03C	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		DO	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<890	.
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		DG	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A03D	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		DO	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<890	
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.	None	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		DG	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	None	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A04C	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-A04D	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A06C	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<4100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	774,000 gal	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A06D	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A10A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A10B	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FP	<645 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<116,000 gal.	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	<645 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A13A	No - Failure of the equipment in this room will render one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CV	All	No	Break will not result in a reactor trip		
		SD	All	No	Break would not cause other equipment damage due to propagation.		
		SI	All	No	Break will not result in a reactor trip		Pipe is above elevation of IRWST. No release unless SI pumps are running.
100-A13B	No - Failure of the equipment in this room will render one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CF	All	No	Piping is normally isolated		
		CS	All	No	Piping is normally isolated		
		CV	All	No	Break will not result in a reactor trip		
		FC	All	No	Break will not result in a reactor trip		
		SD	All	No	Piping is normally isolated		
		SI	All	No	Break will not result in a reactor trip		Pipe is above elevation of IRWST. No release unless SI pumps are running.
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A15C	No – room contains no flood-susceptible, PRA-related equipment.	DG	All	No	Break will not result in a reactor trip		
100-A15D	No – room contains no flood-susceptible, PRA-related equipment.	DG	All	No	Break will not result in a reactor trip		
100-A16C	No - Failure of the equipment in this room will render one train of SI and one train of CS inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CS	All	No	Break will not result in a reactor trip		Pipe is above elevation of IRWST. No release unless CS pumps are running.
		SI	All	No	Break will not result in a reactor trip		Pipe is above elevation of IRWST. No release unless SI pumps are running.
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
100-A16D	No - Failure of the equipment in this room will render one train of SI and one train of CS inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CS	All	No	Break will not result in a reactor trip		Pipe is above elevation of IRWST. No release unless CS pumps are running.
		SI	All	No	Break will not result in a reactor trip		Pipe is above elevation of IRWST. No release unless SI pumps are running.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A20A	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break would not cause equipment damage due to propagation.		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FC	All	No	Piping is dry.		
		FP	<1200 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<216,000 gal	
		SI	All	No	Line is normally isolated.		
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	<1200 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A22A	No - Failure of equipment in the room renders one channel of ESF inoperable. This will place the plant in a 48-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	135,000 gal	
		FP	<2250 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<405,000 gal.	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-A23A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<1200 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<216,000 gal.	
100-A24A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CV	All	No	Break will not result in a reactor trip		
		FC	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	125,000 gal.	
		FP	<2250 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<405,000 gal.	
100-A25A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A26A	No –equipment damage will not result in a reactor trip.	CV	All	No	Break will not result in a reactor trip		
		FC	All	No	Break will not result in a reactor trip		
100-A27B	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-A28B	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
100-A29B	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Piping is normally isolated.		
		FC	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	125,000 gal.	
100-A30B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<198,000 gal.	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A32B	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FC	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	125,000 gal.	
		WM	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<196,000 gal.	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
100-A35B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<196,000 gal.	
		WM	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<196,000 gal.	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A36B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<196,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
100-A37B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<196,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<196,000 gal.	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
100-A38A	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<2250 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<405,000 gal.	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-A43C	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Line is dry		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
100-A43D	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Line is dry		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
117-A01A	No – room contains no flood-susceptible, PRA-related equipment.	CV	All	No	Break will not result in a reactor trip		
117-A02A	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
120-A01C	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
120-A01D	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
120-A02C	No – room contains no flood-susceptible, PRA-related equipment.	DG	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A02D	No – room contains no flood-susceptible, PRA-related equipment.	DG	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
120-A03C	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement	DG	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
120-A03D	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	DG	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
120-A04C	No – room contains no flood-susceptible, PRA-related equipment.	DG	All	No	Break will not result in a reactor trip		
		WM	All	No	Break will not result in a reactor trip		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A04D	No – room contains no flood-susceptible, PRA-related equipment.	DG	All	No	Break will not result in a reactor trip		
		WM	All	No	Break will not result in a reactor trip		
120-A05C	No –equipment damage will not result in a reactor trip.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-A05D	No –equipment damage will not result in a reactor trip.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-A06C	No – Failure of the equipment in this room will render one train of AFW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	AF	All	No	Break will not result in a reactor trip		
		CC	<250 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		SI	All	No	Piping is normally isolated		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A06D	No – Failure of the equipment in this room will render one train of AFW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	AF	All	No	Break will not result in a reactor trip		
		AT	All	No	Piping is dry.		
		CA	All	No	Piping is normally isolated.		
		FP	<1000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<180,000 gal.	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A07C	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break will not result in a reactor trip		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<5100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<918,000 gal.	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A07D	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break will not result in a reactor trip		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FP	<5100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<918,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A09C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
120-A09D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A10C	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	135,000 gal	
		CC	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	135,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
120-A10D	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break will not result in a reactor trip		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A11A	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FP	<1200 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<216,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WM	<1200 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<216,000 gal.	
120-A11B	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		CF	All	No	Piping is normally isolated		
		FP	<890 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<160,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
120-A13B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<890 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<160,000 gal.	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A14A	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
		CD	All	Yes	Break will not cause other equipment damage due to propagation.		Included in loss of MFW event
		SD	All	No	Break will not result in a reactor trip		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A16A	No - Failure of the equipment in this room will render one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	AS	All	No	Break will not result in a reactor trip		
		CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		CS	All	No	Piping is dry.		
		CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		SD	All	No	Piping is normally isolated		
		SI	All	No	Piping is normally isolated		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A16B	No - Failure of the equipment in this room will render one train of SI inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CF	All	No	Piping is normally isolated		
		CS	All	No	Piping is normally isolated.		
		CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FC	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is normally isolated.		
		SD	All	No	Piping is normally isolated.		
		SI	All	No	Break will not result in a reactor trip		Pipe is above elevation of IRWST. No release unless SI pumps are running.
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A20A	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
		CV	All	No	Piping is isolated.		
		FP	<3270 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<589,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
120-A21A	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
120-A23A	No –equipment damage will not result in a reactor trip.	CV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
120-A24A	No – room contains no flood-susceptible, PRA-related equipment.	FP	<3270 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<589,000 gal	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-A29B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<198,000 gal.	
		WM	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
120-A31B	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		CF	All	No	Piping is normally isolated		
		FP	<1100 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<196,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
137-A01C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
137-A01D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A02C	No –equipment damage will not result in a reactor trip.	FP	All	No	Piping is for intergen system and would not fail equipment in the room.		
		FW	All	No	Piping is normally isolated.		
		WD	<1760 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<317,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
137-A05C	Yes – Results in a General Transient event.	AS	All	No	Propagation cannot cause other equipment damage.		
		FP	All	No	Piping is for inergen system and would not fail equipment in the room.		
		WI	All	No	Propagation cannot cause other equipment damage.		
		WM	All	No	Propagation cannot cause other equipment damage.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A09C	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Piping is dry.		
		CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	<1935 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<348,000 gal.	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Break will not result in a reactor trip		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A09D	No – room contains no flood-susceptible, PRA-related equipment.	AX	All	No	Piping is dry.		
		CC	All	No	Propagation cannot cause other equipment damage that would require a reactor trip.	83,000 gal	
		FP	<1935 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<348,000 gal.	
		WI	All	No	Break will not result in a reactor trip		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
137-A11C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A11D	No – room contains no flood-susceptible, PRA-related equipment.	FP	<1690 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<304,000 gal.	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
137-A13B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<490 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<88,000 gal.	
137-A16A	No – room contains no flood-susceptible, PRA-related equipment.	FP	<2500 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
137-A17A	No - Failure of equipment in the room renders one channel of ESF inoperable. This will place the plant in a 48-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A17B	No - Failure of equipment in the room renders one channel of ESF inoperable. This will place the plant in a 48-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	FP	<490 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<88,000 gal.	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
137-A18A	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
137-A18B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<490 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<88,000 gal.	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A19A	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break will not result in a reactor trip		
		CD	All	Yes	Break will not cause other equipment damage due to propagation.		Included in loss of MFW event
		SD	All	No	Break will not result in a reactor trip		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
137-A20A	No – room contains no flood-susceptible, PRA-related equipment.	FP	<6300 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<1,134,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
137-A21A	No –equipment damage will not result in a reactor trip.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A22A	No – room contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
137-A25A	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is normally isolated.		
137-A29B	No – room contains no flood-susceptible, PRA-related equipment.	FP	<1690 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<353,000 gal.	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A30C	Yes – Results in loss of MFW or secondary line break	AS	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		AT	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		CD	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		CF	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		FW	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		MS	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		SD	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A30D	Yes – Results in loss of MFW or secondary line break	AS	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		AT	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		CD	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		CF	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		FW	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		MS	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		SD	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		WM	All	No	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in loss of MFW

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A31C	Yes – Results in loss of MFW or secondary line break	AS	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		AT	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		CD	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		CF	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		FP	All	No	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in loss of condenser vacuum
		FW	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		MS	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		SD	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
137-A31D	Yes – Results in loss of MFW or secondary line break	AT	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		CF	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		FP	All	No	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in loss of condenser vacuum
		FW	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in feedwater line breaks.
		MS	All	Yes	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in secondary side break downstream of MSIV
		WM	All	No	Propagation to adjoining rooms and damage PRA equipment cannot occur.		System breaks considered in loss of MFW
137-A32B	No – room contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
156-A01B	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is normally isolated.		
156-A04B	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is normally isolated.		
156-A05B	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is normally isolated.		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
156-A08B	No – room contains no flood-susceptible, PRA-related equipment.	AS	All	No	Piping is normally isolated.		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A01D	Yes – Failure of RPS and ESF equipment results in reactor trip.	FP	All	No	Piping is dry		
157-A02C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A03C	No – room contains no flood-susceptible, PRA-related equipment.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A04C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
157-A05C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A07C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
157-A08D	No – room contains no flood-susceptible, PRA-related equipment.	WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A09C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
157-A10C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A12C	Yes – Loss of main control boards.	FP	All	No	Piping is dry		
157-A13C	No – room contains no flood-susceptible, PRA-related equipment.	FP	<750 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<135,000 gal.	
157-A13D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A14D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is for intergen system and would not fail equipment in the room.		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A15D	No – room contains no flood-susceptible, PRA-related equipment.	WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
156-A16C	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		Loss of Division I CC is included as an initiating event in the internal events model.
		FP	All	No	Piping is dry		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	<750 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<135,000 gal	
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
156-A16D	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FP	All	No	Piping is dry		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	<750 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
157-A17C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
157-A18C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
157-A19C	Yes – Loss of control circuits.	FP	All	No	Piping is dry		
157-A19D	Yes – Loss of control circuits.	FP	All	No	Piping is dry		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
157-A20C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A20D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A21D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
157-A22D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
157-A23D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
157-A24C	No – room contains no flood-susceptible, PRA-related equipment.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-A25C	Yes – Failure of RPS and ESF equipment results in reactor trip.	FP	All	No	Piping is dry		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
157-A27D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is dry		
172-A02C	No – room contains no flood-susceptible, PRA-related equipment.	WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
172-A02D	No – room contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
172-A03C	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
172-A03D	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
172-A12C	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
172-A12D	No – room contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
172-A14C	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
172-A14D	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WO	All	No	Break will not result in a reactor trip	4,300 gal	Failure of the WO system will place the plant in a 7-day LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.
172-A15B	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
172-A16B	No – room contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
172-A17B	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
195-A01C	No – room contains no flood-susceptible, PRA-related equipment.	FP	<3000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<540,000 gal.	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
195-A01D	No – room contains no flood-susceptible, PRA-related equipment.	FP	<3000 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
195-A02C	No – room contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
195-A02D	No – room contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
073-T11	Yes – Causes loss of instrument air	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	No effects unique to flooding.
073-T15	Yes – Causes LOOP	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	No effects unique to flooding.
063-H01	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Piping is dry.		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
063-H02A	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
063-H02B	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
063-H03A	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
063-H03B	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-H01A	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	DG	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
100-H01B	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	DG	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
100-H02A	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	<376 gpm	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		DG	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
		DO	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-H02B	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	<376 gpm	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	83,000 gal	Loss of Division I CC is included as an initiating event in the internal events model.
		DG	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
		DO	All	No	Break will not result in a reactor trip		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
		WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-H07A	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
100-H07B	No – room contains no flood-susceptible, PRA-related equipment.	FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
121-H01A	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
121-H01B	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
121-H02A	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
121-H02B	No – room contains no flood-susceptible, PRA-related equipment.	DO	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
		FP	All	No	Piping is for CO2 and would not fail equipment in the room.		
100-H03A	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	DG	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
100-H03B	No - Failure of the equipment in this room will render one train of EDGs inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	DG	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
069-K01	Yes – Causes partial loss of CCW	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		No effects unique to flooding.
		SW	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		No effects unique to flooding.
		SX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		Loss of Division I CC is included as an initiating event in the internal events model.
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
069-K02	No - Failure of the CC piping in this room will render one train of CCW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		SW	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		No effects unique to flooding.
		SX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		Loss of Division I CC is included as an initiating event in the internal events model.
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
090-K01	Yes – Causes partial loss of CCW	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		No effects unique to flooding.
		SW	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		No effects unique to flooding.
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
069-K02	No - Failure of the CC piping in this room will render one train of CCW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		SW	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		No effects unique to flooding.

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-D01	Yes – Causes partial loss of CCW	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		Loss of Division I CC is included as an initiating event in the internal events model.
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		SX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		Loss of Division I CC is included as an initiating event in the internal events model.
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-D02	No - Failure of the CC piping in this room will render one train of CCW inoperable and place the plant in a 72-hour LCO per TS. This time is not considered an immediate plant shutdown requirement for this analysis.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		SX	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		Loss of Division I CC is included as an initiating event in the internal events model.
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
63-foot and 85-foot elevations Compound Building	No – areas contain no flood-susceptible, PRA-related equipment.	AS CC CV FP WD WI WM WL WV WX WY	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P01	No – area contains no flood-susceptible, PRA-related equipment.	WD WV	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-P03	No – area contains no flood-susceptible, PRA-related equipment.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P05	No – area contains no flood-susceptible, PRA-related equipment.	WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P06	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P07 100-P08	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WV WX	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
100-P12	No – area contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
		WI	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WV	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-P13	No – area contains no flood-susceptible, PRA-related equipment.	CC	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage	83,000 gal	
100-P14	No – area contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WX	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
100-P19	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
100-P20	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
100-P21 100-P34 100-P45 100-P46 100-P47 100-P56	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-P22	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P23	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
100-P24 100-P54 100-P55	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P25	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD WL	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P27	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
100-P28	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
100-P30	No – area contains no flood-susceptible, PRA-related equipment.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-P31	No – area contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WX	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
100-P32	No – area contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P33	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
100-P35 100-P52 100-P53	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P36	No – area contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P37	No – area contains no flood-susceptible, PRA-related equipment.	FP WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
100-P38 100-P39 100-P41 100-P48	No – area contains no flood-susceptible, PRA-related equipment.	FP WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P42	No – area contains no flood-susceptible, PRA-related equipment.	FP WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P43	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
100-P44	No – area contains no flood-susceptible, PRA-related equipment.	FP WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P50	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
100-P51	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P60	No – area contains no flood-susceptible, PRA-related equipment.	AS	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
100-P61 100-P62 100-P63	No – area contains no flood-susceptible, PRA-related equipment.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-P07	No – area contains no flood-susceptible, PRA-related equipment.	CC FP WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-P09	No –equipment damage will not result in a reactor trip.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-P10	No – area contains no flood-susceptible, PRA-related equipment.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
120-P11 120-P12	No – area contains no flood-susceptible, PRA-related equipment.	CC WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-P15	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
120-P16	No – area contains no flood-susceptible, PRA-related equipment.	WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-P20	No – area contains no flood-susceptible, PRA-related equipment.	WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-P21 120-P23	No – area contains no flood-susceptible, PRA-related equipment.	FP WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-P22	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
120-P25	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-P27	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
120-P29	No – area contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
120-P30	No – area contains no flood-susceptible, PRA-related equipment.	WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
120-P32	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1700 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<306,000 gal.	
		WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
139-P02 139-P06	No – area contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WX	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
139-P03	No – area contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
139-P04	No – area contains no flood-susceptible, PRA-related equipment.	WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
139-P07	No – area contains no flood-susceptible, PRA-related equipment.	FP	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
139-P09	No – area contains no flood-susceptible, PRA-related equipment.	WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
139-P10	No – area contains no flood-susceptible, PRA-related equipment.	WD WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
139-P13	No – area contains no flood-susceptible, PRA-related equipment.	FP WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
		WX	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.		
139-P15	No – area contains no flood-susceptible, PRA-related equipment.	FP WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
139-P16	No – area contains no flood-susceptible, PRA-related equipment.	FP WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
139-P17	No – area contains no flood-susceptible, PRA-related equipment.	WD WL WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		

Flood Area	Does Failure of Equipment in the Room Cause or Require a Reactor Trip?	Flood Source System	Source Flowrate Screened	Source System Failure Require Reactor Trip?	Reason for Screening	System volume released	Notes
157-P01 157-P04 157-A27C	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1340 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WD WM	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
157-P02	No – area contains no flood-susceptible, PRA-related equipment.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
		WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	
157-P03	No – area contains no flood-susceptible, PRA-related equipment.	WD	All	No	Break cannot credibly last long enough to propagate and cause other equipment damage		
157-P08	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1340 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<241,000	
157-P09	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1340 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<241,000	
157-P10	No – area contains no flood-susceptible, PRA-related equipment.	FP	<1340 gpm	No	Break cannot credibly last long enough to propagate and cause other equipment damage	<241,000	
174-P02	No – area contains no flood-susceptible, PRA-related equipment.	WI	All	No	Insufficient inventory to propagate to adjoining rooms and damage PRA equipment.	<24,700	

Table 2
Flood Sources Retained by Flood Area

Flood Area	System	Flowrate	Estimated Volume Released	Remark
050-A01C	CC-Division 1	>250 gpm	>83,000 gal	Break could drain Division I CC header and will require manual reactor trip (This flood area is subsumed into LOCC initiating event)
	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A01D	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A02C	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A02D	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A03A	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A03B	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and will require manual reactor trip
055-A01C	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A01D	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A03C	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and D which will require manual reactor trip
055-A03D	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and C which will require manual reactor trip
055-A04C	FP	>3000 gpm	540,000 gal	Propagation to quadrants A, B, and D which will require manual reactor trip
055-A04D	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and C which will require manual reactor trip
055-A05C	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and D which will require manual reactor trip
055-A05D	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and C which will require manual reactor trip
055-A07D	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip

Flood Area	System	Flowrate	Estimated Volume Released	Remark
055-A14C	CS	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A14D	CS	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A18A	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A18B	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and I require manual reactor trip
	FP	>4100 gpm	>745,000 gal	Propagation to quadrant D which will require manual reactor trip
055-A19A	FP	>2500 gpm	>450,000 gal	Fails Division I CCW
055-A19B	FP	>2800 gpm	>504,000 gal	Propagation to quadrant D which will require manual reactor trip
055-A20A	FP	>1900 gpm	>342,000 gal	Propagation to quadrant B which will require manual reactor trip
055-A20B	FP	>2700 gpm	>486,000 gal	Propagation to quadrant A which will require manual reactor trip
055-A21A	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	IW	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A21B	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	CV	All	671,000 gal.	Break could prevent normal RCS makeup and RCP seal injection resulting in a reactor shutdown.
	IW	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A22A	IW	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A35A	FP	>2500 gpm	>450,000 gal	Fails Division I CCW
055-A36A	FP	>2500 gpm	>450,000 gal	Fails Division I CCW

Flood Area	System	Flowrate	Estimated Volume Released	Remark
055-A50B	FP	>1100 gpm	>198,000 gal	Propagation to quadrant A which will require manual reactor trip
050-A57C	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
078-A01D	FP	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A02C	WO	Any	<4300 gal	Spray failure of 4kV Switchgear 1C places plant in 8 hr LCO per TS 3.8.
078-A02D	WO	Any	<4300 gal	Spray failure of 4kV Switchgear 1D places plant in 8 hr LCO per TS 3.8.
	WI	Any	<24,700 gal	Spray failure of 4kV Switchgear 1D places plant in 8 hr LCO per TS 3.8.
078-A03C	WO	Any	<4300 gal	Spray failure of 480 V Load Center 1C places plant in 8 hr LCO per TS 3.8.
078-A03D	WO	Any	<4300 gal	Spray failure of 480 V Load Center 1D places plant in 8 hr LCO per TS 3.8.
	WI	Any	<24,700 gal	Spray failure of 480 V Load Center 1D places plant in 8 hr LCO per TS 3.8.
078-A05C	WO	Any	<4300 gal	Spray failure of train C battery charger and 120 VAC train C Distribution Panel places plant in 8 hr LCO per TS 3.8.
078-A05D	WO	Any	<4300 gal	Spray failure of train D battery charger and 120 VAC train D Distribution Panel places plant in 8 hr LCO per TS 3.8.
078-A07C	WD	Any		Spray failure of train C battery places plant in 8 hr LCO per TS 3.8.
078-A07D	WD	Any		Spray failure of train D battery places plant in 8 hr LCO per TS 3.8.
078-A10C	FP	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A10D	FP	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A15C	AT	All	Steam	Manual reactor trip due to personnel safety
	AF	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A15D	AT	All	Steam	Manual reactor trip due to personnel safety
	AF	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A17C	AT	All	Steam	Manual reactor trip due to personnel safety
	AF	>2180 gpm	>393,000 gal	Propagation to quadrant A which will require manual reactor trip

Flood Area	System	Flowrate	Estimated Volume Released	Remark
078-A17D	AT	All	Steam	Manual reactor trip due to personnel safety
	AF	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A19A	FP	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A19B	FP	400-690 gpm	>72,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>400 gpm	>72,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A20A	AF	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A20B	AF	>400 gpm	>72,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	FP	>400-690 gpm	>72,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A21A	SI	>245 gpm	>44,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A21B	SI	>1400 gpm	>252,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A25A	WO	Any	<4300 gal	Spray failure of 4kV Switchgear 1A places plant in 8 hr LCO per TS 3.8.
078-A25B	WO	Any	<4300 gal	Spray failure of 4kV Switchgear 1B places plant in 8 hr LCO per TS 3.8.
078-A29B	CC	>400 gpm	>72,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A29C	CC	>1900 gpm	>342,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A31A	FP	>2250 gpm	>405,000 gal	Propagation to quadrant C which will require manual reactor trip
078-A43B	FP	>1100 gpm	>198,000 gal	Propagation to quadrant A which will require manual reactor trip
078-A44B	FP	>1100 gpm	>198,000 gal	Propagation to quadrant D which will require manual reactor trip
078-A49B	FP	>1100 gpm	>198,000 gal	Propagation to quadrant D which will require manual reactor trip
078-A57C	FP	>2500 gpm	>450,000 gal	Propagation to quadrant A which will require manual reactor trip
078-A57D	CT	>1100 gpm	<198,000 gal	Failure of both Division II CCW pumps will require manual reactor trip
100-A02C	DG	All		Failure of MCC 04C will require manual reactor trip
100-A02D	DG	All		Failure of MCC 04D will require manual reactor trip
100-A05C	WI	All	24,700 gal	Failure of Switchgear SW01M will result in loss of two RCPs

Flood Area	System	Flowrate	Estimated Volume Released	Remark
100-A05D	WI	All	24,700 gal	Failure of Switchgear SW01N will result in loss of two RCPs
100-A06C	FP	>4300 gpm	>774,000 gal	Propagation to quadrants C and A which will require manual reactor trip
100-A08C	WI	All	24,700 gal	Failure of all electrical equipment in room resulting in a loss of main feedwater
	WO	Any	<4300 gal	Failure of all electrical equipment in room resulting in a loss of main feedwater
100-A08D	WI	All	24,700 gal	Failure of all electrical equipment in room resulting in a loss of main feedwater
	WO	Any	<4300 gal	Failure of all electrical equipment in room resulting in a loss of main feedwater
100-A10B	FP	>645 gpm	>116,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>645 gpm	>116,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A11B	WD	Any		Spray failure of train B battery places plant in 8 hr LCO per TS 3.8.
100-A20A	FP	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A22A	FP	>2250 gpm	>405,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A23A	FP	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A24A	FP	>2250-2500 gpm	>405,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A30B	FP	>1100 gpm	>196,000 gal.	Loss of two trains of equipment which will require manual reactor trip
100-A32B	WM	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
100-A35B	FP	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
	WM	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
100-A36B	FP	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
100-A37B	FP	>1100-1690 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
	WM	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
100-A38A	FP	2250-2500 gpm	>405,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.

Flood Area	System	Flowrate	Estimated Volume Released	Remark
120-A06C	CC	>250 gpm	>83,000 gal	Break will drain Division I CC header and will require manual reactor trip
120-A06D	FP	>1000 gpm	>180,000 gal.	Propagation to quadrants D and B which will require manual reactor trip
120-A07C	FP	>5100 gpm	>918,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A07D	FP	>5100 gpm	>918,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A11A	FP	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A11B	FP	>890 gpm	>160,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A13B	FP	>890 gpm	>160,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A15B	WO	All	4300 gal	Spray failure of MCC 03B will require manual reactor trip
120-A20A	FP	>3270 gpm	>589,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A24A	FP	3270-3600 gpm	>589,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A29B	FP	>1100 gpm	>196,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>1100 gpm	>196,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A31B	FP	>1100 gpm	>196,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A02C	WD	>1760 gpm	>317,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A09C	FP	>1935 gpm	>348,000 gal	Failure of CEDM MG cause trip.
137-A09D	FP	>1935 gpm	>348,000 gal	Causes LOOP.
137-A10C	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A10D	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A11D	FP	>1690 gpm	<304,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A13B	FP	>490 gpm	<88,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A15A	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A15B	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.

Flood Area	System	Flowrate	Estimated Volume Released	Remark
137-A16A	FP	>2500 gpm	>450,000 gal	Fails Division I CCW
137-A17B	FP	>490 gpm	>88,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A18B	FP	>490 gpm	>88,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A20A	FP	>6300 gpm	>1,134,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A23A	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A29B	FP	>1690 gpm	>353,000 gal	Loss of two trains of equipment which will require manual reactor trip
157-A01D	CC	All	<83,000 gal	Failure of protection cabinets caused reactor trip.
	WM	All		Failure of protection cabinets caused reactor trip.
	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
157-A13C	FP	>750 gpm	<135,000 gal	Failure of protection cabinets caused reactor trip.
157-A16C	WM	>750 gpm	<135,000 gal	Failure of protection cabinets caused reactor trip.
157-A16D	WL	>750 gpm	<135,000 gal	Failure of protection cabinets caused reactor trip.
137-A19C	WO	All	<4300 gal.	Failure of protection cabinets caused reactor trip.
137-A19D	WO	All	<4300 gal.	Failure of protection cabinets caused reactor trip.
137-A25C	WI WM	All		Failure of protection cabinets caused reactor trip.
195-A01C	FP	>3000 gpm	>540,000 gal	Manual shutdown due to propagation to adjoining quadrants is assumed.
195-A01D	FP	>3000 gpm	>540,000 gal	Manual shutdown due to propagation to adjoining quadrants is assumed.

Flood Area	System	Flowrate	Estimated Volume Released	Remark
100-P23	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P24 100-P54 100-P55	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P25	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P27	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P28	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P31	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P33	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P35 100-P52 100-P53	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P43	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P50	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P51	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P15	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P22	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P25	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P27	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P32	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
157-P01 157-P04 157-A27C	FP	>1340 gpm	>241,000 gal	Failure of protection cabinets caused reactor trip.
157-P08	FP	>1340 gpm	>241,000 gal	Failure of protection cabinets caused reactor trip.
157-P09	FP	>1340 gpm	>241,000 gal	Failure of protection cabinets caused reactor trip.
157-P10	FP	>1340 gpm	>241,000 gal	Failure of protection cabinets caused reactor trip.

APR1400 DCD TIER 2

Flood sources that have been retained and analyzed for risk impact are shown in Table 19.1-62a.

available for response, that the area is accessible, and that there is sufficient manpower available to perform the actions.

19.1.5.3.1.4 Accident Sequence Definition

The analysis of the internal flooding accident sequences consists of the following steps:

- a. Review information collected from the internal flooding design documentation review, including flood areas, possible flood sources, critical flood heights for equipment modeled in the PRA, drainage capacities and paths, flood detection instrumentation, interconnecting areas, and potential barriers (e.g., curbs, dikes, doors, etc.).
- b. Extract the information needed to develop flooding scenarios. Such information includes: flood area identifier, possible flood sources and the flood hazard presented by each source, modeled PRA equipment in each area, critical flood heights for modeled PRA equipment, drainage paths and capacities, interconnecting areas, flood barriers, and flood detection instrumentation.
- c. Collect other necessary information, including room dimensions and effective floor areas, as well as the identification of which system trains have piping in each flood area.
- d. Determine the potential flood scenarios for each flood area, including damage within the area, flood egress from the area, damage to connecting areas and associated flood heights, detection of the flood, potential means of isolation, and potential for unisolated floods to fill multiple flood areas.
- e. Calculate the timing associated with flood detection and isolation, based on break flow rate, location of detection instrumentation and PRA equipment, floor area or the associated areas, flood level alarm depths, and equipment critical flood heights.

Following development of the flood scenarios and corresponding accident progression, the accident sequence and system fault trees from the internal events PRA are then modified and requantified to evaluate the effects of flooding in each flood area in terms of the resulting accident sequence frequencies.

APR1400 DCD TIER 2

Table 19.1-62

Internal Fire PRA Key Operator Actions by FV (LRF)

Basic Event	Description	FV
H-SDR-POSRV-3WAY	OPERATOR FAILS TO OPERATION (POSRV & 3-WAY V/V)	14.9%
RCOPH-S-SDSE-SL	FAILURE OF SDS VALVES EARLY PHASE OPEN (2/4)	4.8%
CCOPV-S-NSMV	OPERATOR FAILS TO CLOSE CC MOV 143~150 (NON-ESSENTIAL LOAD)	2.7%
EFOPV-S-SIAS	OPERATOR FAILS TO MANUALLY INITIATE ALL CHANNELS VIA MCR FOR SIAS	2.5%
CDOPH-S-ALIGN	OPERATOR FAILS TO START FOR PP01, 02, 03 BY HAND SWITCH	2.4%
H-CI-OPEN	OPERATOR FAILS TO RECOVERY FOR CIS ISOLATION	2.3%
DAOPH-S-AACTG	OPERATOR FAILS TO PROVIDE 1E 4.16kV SW01A,B,C,D	1.8%
CCOPH-S-HX-ALIGN	OPERATOR FAILS TO OPEN CCW HX3A/B ISOLATION V1145 /6 /ESW SUPPLYING V1027/8, 3014/5	1.2%
H-SDR-3WAY	OPERATOR FAILS TO OPEN 3-WAY VALVE	1.2%
AFOPH-S-ALT-LT	OPERATOR FAIL TO ALIGNE FOR SUPPLYING AN ALTERNATE SOURCE	0.8%
WOOPH-S-CROSSTIE	OPERATOR FAILS TO OPEN 1025A/B, 1079A/B AND ALIGN FLOW PATH	0.7%



Table added (Table 19.1-62a)

Table 19.1-62a (1 of 12)

Flood Sources by Flood Area

Flood Area	System	Flowrate	Estimated Volume Released	Remark
050-A01C	CC-Division 1	>250 gpm	>83,000 gal	Break could drain Division I CC header and will require manual reactor trip (This flood area is subsumed into LOCC initiating event)
	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A01D	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A02C	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A02D	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A03A	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
050-A03B	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and will require manual reactor trip
055-A01C	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A01D	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A03C	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and D which will require manual reactor trip
055-A03D	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and C which will require manual reactor trip
055-A04C	FP	>3000 gpm	540,000 gal	Propagation to quadrants A, B, and D which will require manual reactor trip

Table 19.1-62a (2 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
055-A04D	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and C which will require manual reactor trip
055-A05C	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and D which will require manual reactor trip
055-A05D	FP	>3000 gpm	>540,000 gal	Propagation to quadrants A, B, and C which will require manual reactor trip
055-A07D	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A14C	CS	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A14D	CS	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A18A	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A18B	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	FP	>4100 gpm	>745,000 gal	Propagation to quadrant D which will require manual reactor trip
055-A19A	FP	>2500 gpm	>450,000 gal	Fails Division I CCW
055-A19B	FP	>2800 gpm	>504,000 gal	Propagation to quadrant D which will require manual reactor trip
055-A20A	FP	>1900 gpm	>342,000 gal	Propagation to quadrant B which will require manual reactor trip

Table 19.1-62a (3 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
055-A20B	FP	>2700 gpm	>486,000 gal	Propagation to quadrant A which will require manual reactor trip
055-A21A	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	IW	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A21B	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	SI	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
	CV	All	671,000 gal.	Break could prevent normal RCS makeup and RCP seal injection resulting in a reactor shutdown.
	IW	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A22A	IW	All	671,000 gal.	Break could drain IRWST and require manual reactor trip
055-A35A	FP	>2500 gpm	>450,000 gal	Fails Division I CCW
055-A36A	FP	>2500 gpm	>450,000 gal	Fails Division I CCW
055-A50B	FP	>1100 gpm	>198,000 gal	Propagation to quadrant A which will require manual reactor trip
050-A57C	CS	>500 gpm	671,000 gal.	Break could drain IRWST and require manual reactor trip
078-A01D	FP	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A02C	WO	Any	<4300 gal	Spray failure of 4kV Switchgear 1C places plant in 8 hr LCO per TS 3.8.

Table 19.1-62a (4 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
078-A02D	WO	Any	<4300 gal	Spray failure of 4kV Switchgear 1D places plant in 8 hr LCO per TS 3.8.
	WI	Any	<24,700 gal	Spray failure of 4kV Switchgear 1D places plant in 8 hr LCO per TS 3.8.
078-A03C	WO	Any	<4300 gal	Spray failure of 480 V Load Center 1C places plant in 8 hr LCO per TS 3.8.
078-A03D	WO	Any	<4300 gal	Spray failure of 480 V Load Center 1D places plant in 8 hr LCO per TS 3.8.
	WI	Any	<24,700 gal	Spray failure of 480 V Load Center 1D places plant in 8 hr LCO per TS 3.8.
078-A05C	WO	Any	<4300 gal	Spray failure of train C battery charger and 120 VAC train C Distribution Panel places plant in 8 hr LCO per TS 3.8.
078-A05D	WO	Any	<4300 gal	Spray failure of train D battery charger and 120 VAC train D Distribution Panel places plant in 8 hr LCO per TS 3.8.
078-A07C	WD	Any		Spray failure of train C battery places plant in 8 hr LCO per TS 3.8.
078-A07D	WD	Any		Spray failure of train D battery places plant in 8 hr LCO per TS 3.8.
078-A10C	FP	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A10D	FP	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A15C	AT	All	Steam	Manual reactor trip due to personnel safety
	AF	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A15D	AT	All	Steam	Manual reactor trip due to personnel safety
	AF	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.

Table 19.1-62a (5 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
078-A17C	AT	All	Steam	Manual reactor trip due to personnel safety
	AF	>2180 gpm	>393,000 gal	Propagation to quadrant A which will require manual reactor trip
078-A17D	AT	All	Steam	Manual reactor trip due to personnel safety
	AF	>2180 gpm	>393,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A19A	FP	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A19B	FP	400-690 gpm	>72,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>400 gpm	>72,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A20A	AF	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A20B	AF	>400 gpm	>72,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	FP	>400-690 gpm	>72,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A21A	SI	>245 gpm	>44,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A21B	SI	>1400 gpm	>252,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A25A	WO	Any	<4300 gal	Spray failure of 4kV Switchgear 1A places plant in 8 hr LCO per TS 3.8.
078-A25B	WO	Any	<4300 gal	Spray failure of 4kV Switchgear 1B places plant in 8 hr LCO per TS 3.8.
078-A29B	CC	>400 gpm	>72,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
078-A29C	CC	>1900 gpm	>342,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.

Table 19.1-62a (6 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
078-A31A	FP	>2250 gpm	>405,000 gal	Propagation to quadrant C which will require manual reactor trip
078-A43B	FP	>1100 gpm	>198,000 gal	Propagation to quadrant A which will require manual reactor trip
078-A44B	FP	>1100 gpm	>198,000 gal	Propagation to quadrant D which will require manual reactor trip
078-A49B	FP	>1100 gpm	>198,000 gal	Propagation to quadrant D which will require manual reactor trip
078-A57C	FP	>2500 gpm	>450,000 gal	Propagation to quadrant A which will require manual reactor trip
078-A57D	CT	>1100 gpm	<198,000 gal	Failure of both Division II CCW pumps will require manual reactor trip
100-A02C	DG	All		Failure of MCC 04C will require manual reactor trip
100-A02D	DG	All		Failure of MCC 04D will require manual reactor trip
100-A05C	WI	All	24,700 gal	Failure of Switchgear SW01M will result in loss of two RCPs
100-A05D	WI	All	24,700 gal	Failure of Switchgear SW01N will result in loss of two RCPs
100-A06C	FP	>4300 gpm	>774,000 gal	Propagation to quadrants C and A which will require manual reactor trip
100-A08C	WI	All	24,700 gal	Failure of all electrical equipment in room resulting in a loss of main feedwater
	WO	Any	<4300 gal	Failure of all electrical equipment in room resulting in a loss of main feedwater
100-A08D	WI	All	24,700 gal	Failure of all electrical equipment in room resulting in a loss of main feedwater
	WO	Any	<4300 gal	Failure of all electrical equipment in room resulting in a loss of main feedwater

Table 19.1-62a (7 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
100-A10B	FP	>645 gpm	>116,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>645 gpm	>116,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A11B	WD	Any		Spray failure of train B battery places plant in 8 hr LCO per TS 3.8.
100-A20A	FP	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A22A	FP	>2250 gpm	>405,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A23A	FP	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A24A	FP	>2250-2500 gpm	>405,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-A30B	FP	>1100 gpm	>196,000 gal.	Loss of two trains of equipment which will require manual reactor trip
100-A32B	WM	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
100-A35B	FP	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
	WM	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
100-A36B	FP	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
100-A37B	FP	>1100-1690 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip
	WM	>1100 gpm	>196,000 gal	Loss of two trains of equipment which will require manual reactor trip

Table 19.1-62a (8 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
100-A38A	FP	2250-2500 gpm	>405,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A06C	CC	>250 gpm	>83,000 gal	Break will drain Division I CC header and will require manual reactor trip
120-A06D	FP	>1000 gpm	>180,000 gal.	Propagation to quadrants D and B which will require manual reactor trip
120-A07C	FP	>5100 gpm	>918,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A07D	FP	>5100 gpm	>918,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A11A	FP	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>1200 gpm	>216,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A11B	FP	>890 gpm	>160,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A13B	FP	>890 gpm	>160,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A15B	WO	All	4300 gal	Spray failure of MCC 03B will require manual reactor trip
120-A20A	FP	>3270 gpm	>589,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A24A	FP	3270-3600 gpm	>589,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A29B	FP	>1100 gpm	>196,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
	WM	>1100 gpm	>196,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-A31B	FP	>1100 gpm	>196,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.

Table 19.1-62a (9 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
137-A02C	WD	>1760 gpm	>317,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A09C	FP	>1935 gpm	>348,000 gal	Failure of CEDM MG cause trip.
137-A09D	FP	>1935 gpm	>348,000 gal	Causes LOOP.
137-A10C	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A10D	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A11D	FP	>1690 gpm	<304,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A13B	FP	>490 gpm	<88,000 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A15A	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A15B	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A16A	FP	>2500 gpm	>450,000 gal	Fails Division I CCW
137-A17B	FP	>490 gpm	>88,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A18B	FP	>490 gpm	>88,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A20A	FP	>6300 gpm	>1,134,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A23A	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
137-A29B	FP	>1690 gpm	>353,000 gal	Loss of two trains of equipment which will require manual reactor trip
157-A01D	CC	All	<83,000 gal	Failure of protection cabinets caused reactor trip.
	WM	All		Failure of protection cabinets caused reactor trip.
	WO	All	<4300 gal.	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.

Table 19.1-62a (11 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
100-P06	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P07 100-P08	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P14	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P19	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P20	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P21 100-P34 100-P45 100-P46 100-P47 100-P56	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P22	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P23	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P24 100-P54 100-P55	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P25	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P27	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P28	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P31	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.

Table 19.1-62a (12 of 12)

Flood Area	System	Flowrate	Estimated Volume Released	Remark
100-P33	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P35 100-P52 100-P53	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P43	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P50	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
100-P51	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P15	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P22	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P25	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P27	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
120-P32	FP	>1700 gpm	>306,000 gal	Failure of electrical equipment places plant in 8 hr LCO per TS 3.8.
157-P01 157-P04 157-A27C	FP	>1340 gpm	>241,000 gal	Failure of protection cabinets caused reactor trip.
157-P08	FP	>1340 gpm	>241,000 gal	Failure of protection cabinets caused reactor trip.
157-P09	FP	>1340 gpm	>241,000 gal	Failure of protection cabinets caused reactor trip.
157-P10	FP	>1340 gpm	>241,000 gal	Failure of protection cabinets caused reactor trip.